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From: Noble Jarrell

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Noble.jarrell@uspto.gov

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FILE COVERS 1907 - 21 Oct 2005 VOL 143 ISS 18 FILE LAST UPDATED: 20 Oct 2005 (20051020/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

- L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
- AN 2000:421105 HCAPLUS
- DN 133:58720
- ED Entered STN: 23 Jun 2000
- TI Preparation of heterocyclic piperidines as modulators of chemokine receptor activity
- IN Ko, Soo S.; Delucca, George V.; Duncia, John V.; Santella, Joseph B., III; Wacker, Dean A.
- PA Du Pont Pharmaceuticals Co., USA
- SO PCT Int. Appl., 219 pp.
- CODEN: PIXXD2
- DT Patent
- LA English
- IC ICM C07D211-26 ICS C07D403-06; C07D409-14; A61K031-445; A61K031-47; A61K031-495
- CC 27-17 (Heterocyclic Compounds (One Hetero Atom))
 Section cross-reference(s): 1, 63

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

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OS MARPAT 133:58720

GΙ

IT

AB The title compds. [I; M = absent, CH2, (4-FC6H4CH2)CH, etc.; Q = CH2, (4-FC6H4CH2)CH, etc.; J, K, L = CH2, (4-FC6H4CH2)CH, etc.; E = CH2, (CH2)2, etc.; Y = piperidinyl, piperazinyl, isoquinolinyl, etc. (N-substituted with CONHPh, COPh, etc.); R4 = absent, alkyl, alkenyl, etc.], modulators of CCR3 useful for the prevention of asthma and other allergic diseases, were prepared and formulated. E.g., a multi-step synthesis of II was given. Compds. I are effective at 1.0-20 mg/kg/day. ST heterocyclic piperidine prepn formulation chemokine CCR3 modulator; antiasthmatic heterocyclic piperidine prepn formulation; allergy inhibitor heterocyclic piperidine prepn formulation; antiinflammatory heterocyclic piperidine prepn formulation

IT Allergy inhibitors

Anti-inflammatory agents

Antiasthmatics

(preparation of heterocyclic piperidines as modulators of chemokine receptor activity) ${\bf r}$

IT Chemokine receptors

RL: BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study)

(β chemokine receptor CCR3; preparation of heterocyclic piperidines as modulators of chemokine receptor activity)

IT 276872-71-0P 276872-72-1P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of heterocyclic piperidines as modulators of chemokine receptor activity)

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              THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
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(1) Hesselgesser, J; JOURNAL OF BIOLOGICAL CHEMISTRY 1998, V273 (25), P15687
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(2) Kirchner; US 3133061 A 1964 HCAPLUS
(3) Lovens, K; DE 2013179 A 1970 HCAPLUS
(4) Merck & Co; WO 9825604 A 1998 HCAPLUS
(5) Merck & Co; WO 9827815 A 1998 HCAPLUS
(6) Merck & Co; WO 9831364 A 1998 HCAPLUS
(7) Merck & Co; WO 9909984 A 1999 HCAPLUS
(8) Weston; US 2684965 A 1954 HCAPLUS
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     receptor antagonists and agonists.
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          C07D403-06; C07D409-14; C07D413-02
AB
     WO 200035877 A UPAB: 20000811
     NOVELTY - Heterocyclic piperidines (I) are new.
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DETAILED DESCRIPTION - Heterocyclic piperidines of formula (I) are
new.
     M = absent, CH2, CHR5, CHR13, CR13R13 or CR5R13;
     Q = CH2, CHR5, CHR13, CR13R13 or CR5R13;
     J, K', L = CH2, CHR5, CHR6, CR6R6, CR5R6 or CR5R13;
    E = (CR7R8)(CR9R10)v;
v = 0 - 2;
     Y' = substituted piperidinyl, pyrrolidinyl, morpholinyl,
thiomorpholinyl, piperazinyl, quinolinyl or isoquinolinyl;
     R4 = absent, 1-8C alkyl, 2-8C alkenyl, 2-8C alkynyl, 3-6C
cycloalkylalkyl, alkylcarbonylalkyl, aminocarbonylalkyl,
alkoxycarbonylalkyl or optionally substituted 3-10C cycloalkylalkyl; or
NR4 = N-oxide;
     R5 = optionally substituted 3-10C cycloalkylalkyl or optionally
substituted heterocycloalkyl;
     R6 = 1-4C alkyl, 2-8C alkenyl, 2-8C alkynyl, 3-6C cycloalkylalkyl,
perfluoroalkyl, CN, aminoalkyl, hydroxyalkyl, alkoxyalkyl, mercaptoalkyl,
alkylthioalkyl, carboxyalkyl, alkylcarbonylalkyl, alkylamidoalkyl,
alkylcarbonylaminoalkyl, alkoxycarbonylalkyl, alkylcarbonyloxyalkyl,
alkyl-S(0)palkyl, alkylsulfonamidoalkyl, alkylsulfonylaminoalkyl or
optionally substituted phenylalkyl;
p = 1 - 3 (sic);
     R7 = H, 1-8C alkyl, 2-8C alkenyl, 2-8C alkynyl, hydroxyalkyl,
mercaptoalkyl, alkoxyalkyl, alkylthioalkyl, alkylaminoalkyl, carboxyalkyl,
alkylcarbonylalkyl, alkylamidoalkyl, alkylcarbonylaminoalkyl,
alkoxycarbonylalkyl, alkylcarbonyloxyalkyl, alkyl-S(O)palkyl,
alkylsulfonamidoalkyl, alkylsulfonylaminoalkyl, 1-6C haloalkyl, optionally
substituted 3-10C cycloalkylalkyl or optionally substituted
heterocycloalkyl;
     R8 = H, 1-6C alkyl, 3-6C cycloalkyl or optionally substituted
phenylalkyl; or
     R7 + R8 = 3-7C cycloalkyl or =NR8b;
     R8b = 1-6C alkyl, 3-6C cycloalkyl, OH, CN or phenylalkyl;
     R9 = H, 1-8C alkyl, 2-8C alkenyl, 2-8C alkynyl, hydroxyalkyl,
mercaptoalkyl, alkoxyalkyl, alkylthioalkyl, alkylaminoalkyl, carboxyalkyl,
alkylcarbonylalkyl, alkylamidoalkyl, alkylcarbonylaminoalkyl,
alkoxycarbonylalkyl, alkylcarbonyloxyalkyl, alkyl-S(0)palkyl,
alkylsulfonamidoalkyl, alkylsulfonylaminoalkyl, 1-6C haloalkyl, optionally
substituted 3-10C cycloalkylalkyl, optionally substituted
heterocycloalkyl, F, Cl, Br, I, NO2, CN or amidoalkyl;
     R10 = H, 1-8C alkyl, 2-8C alkenyl, 2-8C alkynyl, OH, hydroxyalkyl,
alkoxyalkyl, alkylthioalkyl, alkylaminoalkyl, carboxyalkyl,
alkylcarbonylalkyl, alkylamidoalkyl, alkylcarbonylaminoalkyl,
alkoxycarbonylalkyl, alkylcarbonyloxyalkyl, alkyl-S(O)palkyl,
alkylsulfonamidoalkyl, alkylsulfonylaminoalkyl, 1-6C haloalkyl, optionally
substituted 3-10C cycloalkylalkyl, optionally substituted
heterocycloalkyl, F, Cl, Br, I, NO2, CN or amidoalkyl; or R9 + R10 = 3-7C cycloalkyl; and
     R13 = 1-4C alkyl, 2-8C alkenyl, 2-8C alkynyl, 3-6C cycloalkyl,
perfluoroalkyl, alkylaminoalkyl, hydroxyalkyl, alkoxyalkyl, mercaptoalkyl,
alkylthioalkyl, carboxyalkyl, alkylcarbonylalkyl, alkylamidoalkyl,
alkylcarbonylaminoalkyl, alkoxycarbonylalkyl, alkylcarbonyloxyalkyl,
alkyl-S(O)palkyl, alkylsulfonamidoalkyl, alkylsulfonylaminoalkyl or
optionally substituted phenylalkyl.
     N.B.: Full definitions are given in the 'Definition: Full
Definitions' section.
     ACTIVITY - Antiasthmatic; antiallergic; antiinflammatory;
dermatological; antihelminthic; ocular; immunosuppressive; anti-HIV;
respiratory; cytostatic; gastrointestinal.
     MECHANISM OF ACTION - CCR-3 (cytokine receptor) agonist or
antagonist.
     The inhibition of eosinophil migration (as an indication of CCR3
receptor modulation) can be demonstrated using known methods, e.g. Bacon
et al., Brit. J. Pharmacol., 95, 966-974 (1988). (I) had IC50 values of
less than 10 mM.
     USE - Used to treat asthma, allergic rhinitis, atopic dermatitis,
```

inflammatory bowel disease (IBD), idiopathic pulmonary fibrosis, bullous
pemphigoid, helminthic parasitic infections, allergic colitis, eczema,
conjunctivitis, transplantation, familial eosinophilia, eosinophilic
cellulitis, eosophilic pneumonias, eosinophilic fasciitis, eosinophilic
gastroenteritis, drug induced eosinophilia, HIV infection, cystic
fibrosis, Churg-Strauss syndrome, lymphoma, Hodgkin's disease and colonic
carcinoma, preferably asthma, allergic rhinitis, atopic dermatitis or IBD,
especially asthma (claimed).
Dwg.0/0
CPI
AB; GI; DCN
CPI: B06-H; B07-D04; B07-D05; B14-A02B1; B14-B03; B14-C03; B14-E10C;
B14-G02; B14-H01; B14-K01; B14-K01A; B14-N03; B14-N17C; C06-H;
C07-D04; C07-D05; C14-A02B1; C14-B03; C14-C03; C14-E10C; C14-G02;
C14-H01; C14-K01; C14-K01A; C14-N03; C14-N17C

=> b home FILE 'HOME' ENTERED AT 11:46:15 ON 21 OCT 2005

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FS

FA

MC

=> d his full

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(FILE 'HOME' ENTERED AT 11:42:34 ON 21 OCT 2005)
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FILE 'REGISTRY' ENTERED AT 11:44:55 ON 21 OCT 2005

FILE 'HCAPLUS' ENTERED AT 11:44:55 ON 21 OCT 2005 L2 TRA L1 1- RN : 211 TERMS

FILE 'REGISTRY' ENTERED AT 11:44:56 ON 21 OCT 2005 L3 211 SEA ABB=ON PLU=ON L2

FILE 'WPIX' ENTERED AT 11:45:02 ON 21 OCT 2005

L4 1 SEA ABB=ON PLU=ON (US2004186097 OR US6331545)/PN OR (US2004-8 09772# OR US99-465949#)/AP,PRN

FILE 'REGISTRY' ENTERED AT 12:09:15 ON 21 OCT 2005
L5 STR
L6 7 SEA SSS SAM L5
L7 SCR 1607 AND 1034 AND 1839
L8 16 SEA SSS SAM L5 AND L7
L9 2283213 SEA ABB=ON PLU=ON (NC5 OR NC4)/ES AND NC5/ES
L10 7 SEA SUB=L9 SSS SAM L5 AND L7

L11 2943 SEA SUB=L9 SSS FUL L5 AND L7
SAV TEM HABTE772F0/A L11

L12 STR L5

L20

L13 28 SEA SUB=L11 SSS SAM L12 L14 474 SEA SUB=L11 SSS FUL L12 SAV TEM L14 HAB772SO/A

FILE 'HCAPLUS' ENTERED AT 12:44:03 ON 21 OCT 2005 L15 57 SEA ABB=ON PLU=ON L14

FILE 'HCAOLD' ENTERED AT 12:44:17 ON 21 OCT 2005 L16 0 SEA ABB=ON PLU=ON L14

FILE 'HCAPLUS' ENTERED AT 13:28:05 ON 21 OCT 2005

E KO S/AU

L17 55 SEA ABB=ON PLU=ON ("KO S"/AU OR "KO S S"/AU)
E KO SOO/AU

L18 48 SEA ABB=ON PLU=ON ("KO SOO"/AU OR "KO SOO S"/AU)
E DELUCCA G/AU

L19 32 SEA ABB=ON PLU=ON ("DELUCCA G"/AU OR "DELUCCA GEORGE"/AU OR "DELUCCA GEORGE V"/AU OR "DELUCCA GEORGE VINCENT"/AU)

E DE LUCCA G/AU

32 SEA ABB=ON PLU=ON ("DE LUCCA G"/AU OR "DE LUCCA G V"/AU OR "DE LUCCA GEORGE V"/AU OR "DE LUCCA GEORGE V"/AU OR "DE LUCCA GEORGE VINCENT"/AU)
E DUNCIA J/AU

L21

94 SEA ABB=ON PLU=ON ("DUNCIA J"/AU OR "DUNCIA J V"/AU OR

"DUNCIA JOHN J"/AU OR "DUNCIA JOHN J V"/AU OR "DUNCIA JOHN
JONAS V"/AU OR "DUNCIA JOHN JONAS VYTAUTAS"/AU OR "DUNCIA JOHN
V"/AU OR "DUNCIA JOHN V K"/AU)
E SANTELLA J/AU

L22 31 SEA ABB=ON PLU=ON ("SANTELLA J B"/AU OR "SANTELLA JOSEPH
B"/AU OR "SANTELLA JOSEPH B III"/AU OR "SANTELLA JOSEPH BASIL
III"/AU)
E WACKER D/AU

L23 38 SEA ABB=ON PLU=ON ("WACKER D"/AU OR "WACKER DEAN A"/AU OR "WACKER DEAN ALAN"/AU)

FILE 'REGISTRY' ENTERED AT 13:30:15 ON 21 OCT 2005

L24 84 SEA ABB=ON PLU=ON L14 AND L3

FILE 'HCAPLUS' ENTERED AT 13:30:56 ON 21 OCT 2005

L25 57395 SEA ABB=ON PLU=ON (DUPONT OR DU(W)PONT)/CS,PA

L26 12567 SEA ABB=ON PLU=ON (BMS OR (BRISTOL AND (MYERS OR MEYER#) OR SQUIBB?))/CS,PA

L27 5 SEA ABB=ON PLU=ON L15 AND (L17 OR L18 OR L19 OR L20 OR L21 OR L22 OR L23 OR L25 OR L26)

52 SEA ABB=ON PLU=ON L15 NOT L27

L28

L32

L29 23 SEA ABB=ON PLU=ON L28 AND (PY<=1998 OR AY<=1998 OR PRY<=1998)

FILE 'REGISTRY' ENTERED AT 13:40:26 ON 21 OCT 2005

85 SEA ABB=ON PLU=ON (184968-90-9/BI OR 178372-38-8/BI OR L30 146366-34-9/BI OR 146366-53-2/BI OR 178372-05-9/BI OR 178373-16 -5/BI OR 178373-17-6/BI OR 178373-30-3/BI OR 178373-31-4/BI OR 178373-43-8/BI OR 178373-44-9/BI OR 226916-90-1/BI OR 278786-29 -1/BI OR 278786-30-4/BI OR 278786-31-5/BI OR 278786-32-6/BI OR 278786-33-7/BI OR 146366-43-0/BI OR 146366-44-1/BI OR 146366-45 -2/BI OR 146366-46-3/BI OR 146366-47-4/BI OR 146366-49-6/BI OR 146366-50-9/BI OR 146366-54-3/BI OR 146366-55-4/BI OR 146366-57 -6/BI OR 146366-62-3/BI OR 146366-63-4/BI OR 146366-66-7/BI OR 146366-67-8/BI OR 146366-68-9/BI OR 146366-69-0/BI OR 146366-70 -3/BI OR 146366-71-4/BI OR 146366-72-5/BI OR 146366-73-6/BI OR 146366-74-7/BI OR 146366-76-9/BI OR 146366-77-0/BI OR 146366-78 -1/BI OR 146366-79-2/BI OR 146366-80-5/BI OR 146366-81-6/BI OR 146366-82-7/BI OR 146366-83-8/BI OR 146395-73-5/BI OR 146395-74 -6/BI OR 146395-75-7/BI OR 146395-76-8/BI OR 146396-13-6/BI OR 147635-80-1/BI OR 147635-81-2/BI OR 147635-82-3/BI OR 147635-83 -4/BI OR 147635-88-9/BI OR 147635-89-0/BI OR 147635-90-3/BI OR 147636-24-6/BI OR 147636-25-7/BI OR 147636-26-8/BI OR 147636-27 -9/BI OR 168890-87-7/BI OR 168890-88-8/BI OR 168892-04-4/BI OR 168892-18-0/BI OR 168892-19-1/BI OR 169495-82-3/BI OR 169496-00 -8/BI OR 169496-55-3/BI OR 169820-28-4/BI OR 169820-29-5/BI OR 169820-30-8/BI OR 179178-02-0/BI OR 188979-33-1/BI OR 200185-13 -3/BI OR 200185-14-4/BI OR 200185-35-9/BI OR 200185-36-0/BI OR 215776-40-2/BI OR 220032-88-2/BI OR 220032-89-3/BI OR 220032-90 -6/BI OR 36495-05-3/BI OR 52234-12-5/BI)

FILE 'HCAPLUS' ENTERED AT 13:46:50 ON 21 OCT 2005 L31 2 SEA ABB=ON PLU=ON L24

FILE 'REGISTRY' ENTERED AT 13:59:53 ON 21 OCT 2005
3 SEA ABB=ON PLU=ON (C35H42CL2N2O3 OR C33H36CLN5O4 OR C33H44CLN
505) AND L30

FILE 'HCAPLUS' ENTERED AT 14:01:43 ON 21 OCT 2005

L33 2 SEA ABB=ON PLU=ON L32 AND L29

L34 29 SEA ABB=ON PLU=ON L28 NOT L29 SEL HIT RN L34

FILE 'REGISTRY' ENTERED AT 14:02:54 ON 21 OCT 2005

L35 83 SEA ABB=ON PLU=ON (254115-77-0/BI OR 254115-78-1/BI OR 254115-79-2/BI OR 254115-80-5/BI OR 406694-79-9/BI OR 184968-90 -9/BI OR 253790-55-5/BI OR 253790-56-6/BI OR 253790-66-8/BI OR 261767-37-7/BI OR 261767-40-2/BI OR 288379-24-8/BI OR 339152-08 -8/BI OR 340962-91-6/BI OR 356783-69-2/BI OR 401504-69-6/BI OR 404960-14-1/BI OR 404960-39-0/BI OR 445487-34-3/BI OR 502546-31 -8/BI OR 502630-14-0/BI OR 502630-15-1/BI OR 502630-16-2/BI OR 502630-17-3/BI OR 552858-19-2/BI OR 552858-20-5/BI OR 552858-21 -6/BI OR 552858-22-7/BI OR 552858-23-8/BI OR 552858-24-9/BI OR 552858-25-0/BI OR 552858-26-1/BI OR 552858-33-0/BI OR 552858-34 -1/BI OR 552858-90-9/BI OR 552858-92-1/BI OR 552858-94-3/BI OR 566150-27-4/BI OR 566150-31-0/BI OR 628728-00-7/BI OR 632349-28 -1/BI OR 681131-45-3/BI OR 681131-52-2/BI OR 681131-99-7/BI OR 689217-98-9/BI OR 716346-38-2/BI OR 766540-56-1/BI OR 766540-74 -3/BI OR 768371-60-4/BI OR 768371-61-5/BI OR 768373-34-8/BI OR

770729-77-6/BI OR 777064-53-6/BI OR 777064-95-6/BI OR 777065-02
-8/BI OR 777065-07-3/BI OR 777065-08-4/BI OR 777065-09-5/BI OR
777065-27-7/BI OR 777065-28-8/BI OR 777065-29-9/BI OR 777065-30
-2/BI OR 777065-31-3/BI OR 777065-56-2/BI OR 777065-97-1/BI OR
777066-39-4/BI OR 777066-46-3/BI OR 777066-52-1/BI OR 777066-54
-3/BI OR 777066-56-5/BI OR 777066-76-9/BI OR 777066-77-0/BI OR
777066-78-1/BI OR 777066-79-2/BI OR 777066-80-5/BI OR 777067-06
-8/BI OR 850381-09-8/BI OR 850381-11-2/BI OR 850381-21-4/BI OR
850381-22-5/BI OR 850381-23-6/BI OR 850381-25-8/BI OR 864064-85
-7/BI)

L36 11 SEA ABB=ON PLU=ON L35 AND (C23H36BRN3O2 OR C22H33BRN2O3 OR C24H37BRN2O2 OR C22H30BRF3N2O2 OR C26H31FN2O3 OR C24H37BRN2O3 OR C25H40B2N3O2 OR C25H39BRN2O2)

2 SEA ABB=ON PLU=ON L35 AND C25H40BRN3O2

L38 13 SEA ABB=ON PLU=ON (L36 OR L37)

1.37

FILE 'HCAPLUS' ENTERED AT 14:17:07 ON 21 OCT 2005 L39 4 SEA ABB=ON PLU=ON (L33 OR L38)

=> b reg
FILE 'REGISTRY' ENTERED AT 14:19:07 ON 21 OCT 2005
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STRUCTURE FILE UPDATES: 19 OCT 2005 HIGHEST RN 865652-03-5 DICTIONARY FILE UPDATES: 19 OCT 2005 HIGHEST RN 865652-03-5

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TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

=> d que sta 114 L5 STR

REP G1=(0-1) C
REP G2=(1-3) C
VAR G3=9/10/11
VAR G4=17/CHO
VAR G5=AK/CY/19/21/24/28/33/43
VAR G6=AK/CY
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED NUMBER OF NODES IS 42

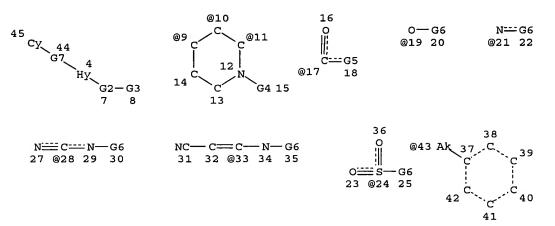
STEREO ATTRIBUTES: NONE

L7 SCR 1607 AND 1034 AND 1839

L9 2283213 SEA FILE=REGISTRY ABB=ON PLU=ON (NC5 OR NC4)/ES AND NC5/ES

L11 2943 SEA FILE=REGISTRY SUB=L9 SSS FUL L5 AND L7

L12 STR



REP G2=(1-3) C VAR G3=9/10/11 VAR G4=17/CHO VAR G5=AK/CY/19/21/24/28/33/43 VAR G6=AK/CY REP G7=(1-2) C NODE ATTRIBUTES: DEFAULT MLEVEL IS ATOM

474 ANSWERS

GGCAT IS MCY SAT AT DEFAULT ECLEVEL IS LIMITED ECOUNT IS M4-X5 C E1 N AT

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 39

STEREO ATTRIBUTES: NONE

474 SEA FILE=REGISTRY SUB=L11 SSS FUL L12 L14

100.0% PROCESSED 2943 ITERATIONS

SEARCH TIME: 00.00.01

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FILE COVERS 1907 - 21 Oct 2005 VOL 143 ISS 18 FILE LAST UPDATED: 20 Oct 2005 (20051020/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d all fhitstr 127 tot

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L27 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
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- 2002:594840 HCAPLUS AN
- 137:154858 DN
- Entered STN: 09 Aug 2002 ED
- Preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa. ТT
- Stein, Philip P.; O'Connor, Stephen P.; Lawrence, R. Michael; Shi, Yan
- Bristol-Myers Squibb Company, USA PA
- SO PCT Int. Appl., 246 pp.

CODEN: PIXXD2

- DTPatent
- English LА
- IC ICM C07D401-06
 - ICS C07D409-14; C07D413-14; C07D417-14; C07D401-14; C07D211-56; C07D409-12; C07D471-08; C07D405-12; C07D491-08; A61K031-4545; A61P007-02
- 27-16 (Heterocyclic Compounds (One Hetero Atom))

Section cross-reference(s): 1, 28

PATENT NO.						KIND		DATE		1	APPL	ICAT	DATE					
ΡI	WO 2002060894					A2		20020808		WO 2002-US2542						20020128		
	WO 2002060894			94		A3		20021219										
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     CA 2436774
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                                                                        20020128
                                               EP 2002-717381
                                                                        20020128
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     EP 1358178
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                                   20030429
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                            Р
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     WO 2002-US2542
CLASS
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 WO 2002060894
                  ICM
                          C07D401-06
                          C07D409-14; C07D413-14; C07D417-14; C07D401-14;
                  ICS
                          C07D211-56; C07D409-12; C07D471-08; C07D405-12;
                          C07D491-08; A61K031-4545; A61P007-02
                          C07D211/56; C07D401/06+211+207; C07D401/14+211+209C+207;
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                          C07D401/14+231+211+207; C07D401/14+233+211+207;
                          C07D401/14+235C+211+207; C07D405/12+317+211;
                          C07D409/12+333+211; C07D409/14+333+211+207;
                          C07D409/14+333B+211+207; C07D409/14+333+211+209C;
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 US 6555542
                  NCL
                          514/352.000; 514/357.000; 514/408.000; 514/423.000;
                          514/438.000; 514/444.000; 514/445.000; 540/485.000; 540/596.000; 540/605.000; 540/609.000; 546/188.000;
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                          C07D409/14+333+211+209C; C07D409/14+333B+211+207;
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     MARPAT 137:154858
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GT

Title compds. [I; X = (substituted) (CH2)m; m = 1-3; R1 = (substituted) AB alkyl, alkenyl, alkynyl, aryl, heteroaryl, etc.; R2, R3 = H, (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heteroaryl, etc.; R4, R41, R5, R51 = H, OH, (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heteroaryl, alkoxy, etc.; R6, R61 = H, (substituted) alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heteroaryl, etc.; R7, R8 = (substituted) (CH2)nH; n = 1-4; R7R8N = (substituted) cycloheteroalkyl), were prepared as cardiovascular agents (no data). 974 I, including (II), were prepared ST factor xa inhibitor arylsulfonamidopiperidone prepn; piperidone arylsulfonamido prepn factor xa inhibitor; lactam sulfonamide prepn factor xa inhibitor; antithrombotic arylsulfonamidopiperidone prepn IT Fibrinogens RL: BSU (Biological study, unclassified); BIOL (Biological study) (antagonists, combination therapy; preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)

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IT
     Brain, disease
        (cerebrovascular, treatment; preparation of arylsulfonamidopiperidones as
        inhibitors of Factor Xa)
IT
     Antihypertensives
    Hypolipemic agents
     Platelet aggregation inhibitors
     Thromboxane receptor antagonists
        (combination therapy; preparation of arylsulfonamidopiperidones as
        inhibitors of Factor Xa)
TТ
    Artery, disease
        (coronary, treatment; preparation of arylsulfonamidopiperidones as
        inhibitors of Factor Xa)
IT
    Anticoagulants
     Cardiovascular agents
     Human
        (preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)
     5-HT receptors
IT
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (serotonin-2 receptor antagonists, combination therapy; preparation of
        arylsulfonamidopiperidones as inhibitors of Factor Xa)
IT
     Thrombosis
        (treatment; preparation of arylsulfonamidopiperidones as inhibitors of
        Factor Xa)
TT
     105913-11-9, Plasminogen activator
    RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (animal salivary gland, combination therapy; preparation of
        arylsulfonamidopiperidones as inhibitors of Factor Xa)
IT
     50-78-2, Aspirin
                       58-32-2, Dipyridamole
                                               81-81-2, Warfarin
                                                                    9002-01-1,
                    9003-53-6, Aspac
                                        9039-53-6, Urokinase
                                                              32828-81-2,
     Streptokinase
                                            73963-72-1, Cilostazol
     Picotamide 55142-85-3, Ticlopidine
     74050-98-9, Ketanserin
                             82657-92-9, Prourokinase
                                                         105857-23-6, Activase
     113665-84-2, Clopidogrel
                                143443-90-7, Ifetroban
                                                         152815-51-5, t-686
     156867-02-6, Xr-330 171870-23-8, Lanoteplase
     RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (combination therapy; preparation of arylsulfonamidopiperidones as
        inhibitors of Factor Xa)
TT
     9002-04-4, Thrombin
                           9025-82-5, Phosphodiesterase
                                                          61276-89-9,
     Thromboxane synthase
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (inhibitors, combination therapy; preparation of arylsulfonamidopiperidones
        as inhibitors of Factor Xa)
TΫ́
     9002-05-5, Factor xa
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (inhibitors; preparation of arylsulfonamidopiperidones as inhibitors of
        Factor Xa)
     445274-33-9P
                    445274-70-4P
     RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
     preparation); THU (Therapeutic use); BIOL (Biological study); PREP
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        (preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)
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RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
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        (preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)
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     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
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        (preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)
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IT
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     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
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(preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)
TΤ
     75-36-5, Acetyl chloride 78-95-5, Chloroacetone 93-11-8,
     Naphthalene-2-sulfonyl chloride 96-32-2, Methyl bromoacetate
     Phenylhydrazine 110-91-8, Morpholine, reactions 111-49-9, Azepane
     124-40-3, Dimethylamine, reactions 141-43-5, 2-Aminoethanol, reactions
     142-25-6, N,N,N'-Trimethylethane-1,2-diamine
                                                      280-74-0,
     3,7-Diazabicyclo[3.3.1]nonane 621-84-1, Carbamic acid benzyl ester
     814-75-5, 3-Bromo-2-butanone 831-25-4, 2-(4-Nitrophenyl)thiazolidine
     924-44-7, Ethyl oxoacetate 927-68-4, 2-Bromoethyl acetate 2039-86-3,
                      2577-48-2, L-Proline methyl ester 2888-06-4,
     3-Bromostyrene
     3-Chlorophenylsulfonyl chloride 4023-34-1, Cyclopropanecarbonyl chloride
     4747-71-1, Cyclopentyl isocyanate 6320-01-0, 3-Bromothiophenol 6684-39-5, 2-Chloro-5-pyridinesulfonyl chloride 7252-83-7,
     Bromoacetaldehyde dimethyl acetal 10365-98-7, 3-Methoxyphenylboronic acid 13816-21-2, 2,2'-Bithiazole 16761-18-5, 4-Acetylamino-3-
     chlorobenzenesulfonyl chloride 20724-48-5, L-Ornithine hydrochloride
     23138-58-1, 3-Ethylphenyl isocyanate 23356-96-9 32654-45-8,
     2-Aminopyridine hydrochloride 34079-31-7 43041-12-9, D-Proline methyl ester 51207-66-0 52147-98-5 63503-60-6, (3-Chlorophenyl)boronic acid
                                             102153-63-9, 6-Chloronaphthalene-2-
     63808-36-6
                  69610-41-9 86864-60-0
     sulfonyl chloride 103057-44-9, 1,1-Dimethylethyl 3-hydroxypyrrolidine-1-
                  113451-59-5 128851-98-9, 5-Chlorobenzo[b]thiophene-2-
     carboxylate
     sulfonyl chloride 132747-20-7 152839-21-9 162607-20-7, 5-Methylthiophene-2-boronic acid 166964-31-4, 5-(1-Methyl-5-
     trifluoromethyl-1H-pyrazol-3-yl)thiophene-2-sulfonyl chloride
     174698-95-4, (S)-2-(Azidomethyl)pyrrolidine 205055-23-8
                                                                    205055-37-4
     206361-62-8
                   288083-19-2 288083-80-7, (R)-2-(Azidomethyl)pyrrolidine
                    360044-67-3, 5-Bromo-2-chlorobenzothiophene 445274-86-2D,
     324575-60-2
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        (preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)
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     5118-13-8P, 4-Bromobenzo[b]thiophene 17347-32-9P, 6-
     Bromobenzo [b] thiophene 19296-69-6P
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                    91790-91-9P, (S)-4-(2-Pyrrolidinylmethyl)morpholine 101385-93-7P, 1,1-Dimethylethyl 3-oxopyrrolidine-1-
     65370-33-4P
     95582-17-5P
                    163457-23-6P, 3,3-Difluoropyrrolidine hydrochloride
     carboxylate
     195447-25-7P, 1,1-Dimethylethyl 3,3-difluoropyrrolidine-1-carboxylate
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     2-Chlorobenzo[b]thiophene-5-sulfonyl chloride 445280-59-1P,
     4-Bromo-2-chlorobenzo[b]thiophene 445280-60-4P, 6-Bromo-2-
     chlorobenzo[b]thiophene 445280-61-5P, 2-Chlorobenzo[b]thiophene-6-
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     sulfonyl chloride
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        (preparation of arylsulfonamidopiperidones as inhibitors of Factor Xa)
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     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
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     3-Azabicyclo[3.1.0] hexane, 3-[[(3S)-3-[[(1E)-2-(5-chloro-2-
CN
     thienyl)ethenyl]sulfonyl]amino]-2-oxo-1-piperidinyl]acetyl]-2-[[4-
     (phenylmethyl)-1-piperidinyl]methyl]- (9CI) (CA INDEX NAME)
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Absolute stereochemistry.

Double bond geometry as shown.

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ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN
L27
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     138:66148
ED
     Entered STN: 11 Jun 2002
     CCR3 antagonists: a potential new therapy for the treatment of asthma.
ΤТ
     Discovery and structure-activity relationships
     Wacker, Dean A.; Santella, Joseph B., III; Gardner,
AU
     Daniel S.; Varnes, Jeffrey G.; Estrella, Melissa; DeLucca, George
     V.; Ko, Soo S.; Tanabe, Keiichi; Watson, Paul S.; Welch,
     Patricia K.; Covington, Maryanne; Stowell, Nicole C.; Wadman, Eric A.;
     Davies, Paul; Solomon, Kimberly A.; Newton, Robert C.; Trainor, George L.;
     Friedman, Steven M.; Decicco, Carl P.; Duncia, John V.
     Experimental Station, Bristol-Myers Squibb
CS
     Company, PO Box 80336, Wilmington, DE, 19880-0336, USA
     Bioorganic & Medicinal Chemistry Letters (2002), 12(13), 1785-1789
SO
     CODEN: BMCLE8; ISSN: 0960-894X
     Elsevier Science Ltd.
PB
DT
     Journal
LΑ
     English
CC
     1-3 (Pharmacology)
     CCR3 antagonist leads with IC50 values in the µM range were converted
AΒ
     into low nM binding compds. that displayed in vitro inhibition of human
     eosinophil chemotaxis induced by human eotaxin. In particular,
     4-benzylpiperidin-1-yl-n-propylureas and erythro-3-(\overline{4}-benzyl-2-(lpha-
     hydroxyalkyl)piperidin-1-yl)-n-propylureas (obtained via Beak reaction of
     N-BOC-4-benzylpiperidine) exhibited single digit nanomolar IC50 values for
     CCR3 antagonist structure activity eosinophil chemotaxis inhibition asthma
ST
IT
     Chemokine receptors
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (CCR3; structure-activity relationships of CCR3 antagonists as
        antiasthmatics)
IT
     Chemotaxis
     Eosinophil
        (human eosinophil chemotaxis inhibition by CCR3 antagonists)
     Antiasthmatics
IT
     Asthma
     Structure-activity relationship
        (structure-activity relationships of CCR3 antagonists as
        antiasthmatics)
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              THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L27 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2005 ACS on STN 2002:31415 HCAPLUS

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     Preparation of N-ureidoheterocyclylalkylpiperidines as modulators of CCR3
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     chemokine receptor activity
     Ko, Soo S.; Pruitt, James R.; Wacker, Dean A.; Batt,
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     Douglas G.
PΑ
     Dupont Pharmaceuticals Company, USA
     PCT Int. Appl., 485 pp.
SO
     CODEN: PIXXD2
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     English
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activity modulator; antiasthmatic ureidoheterocyclylalkylpiperidine prepn;
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    Allergy
     Inflammation
    Nose, disease
        (allergic rhinitis, treatment; preparation of N-
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        receptor activity)
IT
    Dermatitis
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ΙT
     Skin, disease
        (bullous pemphigoid, treatment; preparation of N-
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        receptor activity)
TТ
     Inflammation
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        (colitis, treatment of allergic colitis; preparation of N-
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        receptor activity)
TТ
     Intestine, neoplasm
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        modulators of CCR3 chemokine receptor activity)
IT
    Lung, disease
        (fibrosis, treatment; preparation of N-ureidoheterocyclylalkylpiperidines as
        modulators of CCR3 chemokine receptor activity)
IT
     Intestine, disease
        (inflammatory, treatment; preparation of N-ureidoheterocyclylalkylpiperidine
        s as modulators of CCR3 chemokine receptor activity)
    Anthelmintics
IT
    Anti-AIDS agents
    Antiasthmatics
    Antitumor agents
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Phenyl chloroformate 2689-68-1 3282-30-2, Trimethylacetyl chloride
3462-95-1
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ΙT

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Absolute stereochemistry.

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     136:53686
     Entered STN: 28 Dec 2001
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     Synthesis of piperidine-amido-ureas as modulators of chemokine receptor
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     activity
     Duncia, John V.; Santella, Joseph B.; Wacker,
IN
     Dean A.; Yao, Wenging; Zheng, Changsheng
PΑ
     Dupont Pharmaceuticals Company, USA
so
     PCT Int. Appl., 326 pp.
     CODEN: PIXXD2
DT
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LΑ
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                        C07D417/12+285B+211; C07D417/14+233+233+211;
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C07D471/10+221C+209C

OS MARPAT 136:53686

GΙ

Title compds. I [M = absent CH2, CHR5, CHR13, CR13R13, and CR5R13; Q = AΒ CH2, CHR5, CHR13, CR13R13, and CR5R13; K = CH2, CHR5 and CHR6; J, L = CH2, CHR5, CHR6, CR6R6 and CR5R6; with the provisons that at least one of M, J, K, L, or Q contains an R5; and when M absent, J = CH2, CHR5, CHR13 and CR5R13; Z = 0, S, NR1a, C(CN)2, CH(NO)2, CHCN; R1a = H, (cyclo)alkyl, amido, alkoxy, CN, NO2, etc.; E = C:O-alkyl, sulfonyl-alkyl, C:O-cycloalkyl; etc.; R3 = alkylamino, alkyl-carbocyclic, etc.; R5 = alkyl-carbocyclic; R6 = alk(en/yn)yl, alkyl-cycloalkyl, CN, alkylamino, alkyl-hydroxy, etc.; R13 = alk(en/yn)yl, cycloalkyl, alkyl-CF3, akylamino, alkyl-alkoxy; etc.] were prepared Over 80 synthetic examples were disclosed. For instance, (1R,2R)-2-(benzyloxycarbonylamino)cyclohexanecar boxaldehyde (preparation given) was oxidized to the corresponding carboxylic acid (NaOAc/HOAc, pH 3.5, CH3CN, resorcinol, NaClO2, 0°C, 16 h) and condensed with (S)-3-(4-fluorobenzyl)piperidine (preparation given; CH2Cl2, BOP, Et3N, 0°C, 16 h) to give the amide. The intermediate Cbz group was removed (MeOH, 10% Pd/C, 50 psi H2, overnight) and the amine acylated with 3-acetylphenylisocyanate (THF, 25°C) to give example compound II. I are modulators of chemokine receptor activity and are useful in the prevention of asthma and other allergic diseases.

II

ST piperidineamidoureas piperidine urea chemokine receptor prepn

IT Chemokine receptors

RL: BSU (Biological study, unclassified); BIOL (Biological study) (CCR3; synthesis of piperidine amides as modulators of chemokine receptor activity)

IT Allergy

Inflammation

Nose, disease

(allergic rhinitis; synthesis of piperidine amides as modulators of chemokine receptor activity)

IT Dermatitis

(atopic; synthesis of piperidine amides as modulators of chemokine receptor activity)

IT Skin, disease

(bullous pemphigoid; synthesis of piperidine amides as modulators of chemokine receptor activity)

IT Inflammation

(cellulitis; synthesis of piperidine amides as modulators of chemokine receptor activity)

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IT
     Inflammation
     Intestine, disease
        (colitis, allergic; synthesis of piperidine amides as modulators of
        chemokine receptor activity)
ΙT
     Intestine, neoplasm
        (colon, carcinoma; synthesis of piperidine amides as modulators of
        chemokine receptor activity)
IT
     Carcinoma
        (colon; synthesis of piperidine amides as modulators of chemokine
        receptor activity)
IT
     Eye, disease
     Inflammation
        (conjunctivitis; synthesis of piperidine amides as modulators of
        chemokine receptor activity)
IT
     Eosinophilia
        (familial; synthesis of piperidine amides as modulators of chemokine
        receptor activity)
IT
     Lung, disease
        (fibrosis; synthesis of piperidine amides as modulators of chemokine
        receptor activity)
IT
     Intestine, disease
        (inflammatory; synthesis of piperidine amides as modulators of
        chemokine receptor activity)
IT
     Fibrosis
        (pulmonary; synthesis of piperidine amides as modulators of chemokine
        receptor activity)
TТ
     Anti-inflammatory agents
     Antiasthmatics
     Cystic fibrosis
     Eczema
     Hodgkin's disease
     Human
     Human immunodeficiency virus
     Lymphoma
     Transplant and Transplantation
        (synthesis of piperidine amides as modulators of chemokine receptor
        activity)
TT
     Chemokines
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (synthesis of piperidine amides as modulators of chemokine receptor
        activity)
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     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (drug; synthesis of piperidine amides as modulators of chemokine
        receptor activity)
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IT

382637-50-5P

382637-75-4P

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RL: PUR (Purification or recovery); RCT (Reactant); SPN (Synthetic
    preparation); PREP (Preparation); RACT (Reactant or reagent)
        (intermediate; synthesis of piperidine amides as modulators of
        chemokine receptor activity)
ΙT
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Absolute stereochemistry.

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     Ko, Soo S.; Delucca, George V.; Duncia, John
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     Du Pont Pharmaceuticals Co., USA
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     ICS C07D403-06; C07D409-14; A61K031-445; A61K031-47; A61K031-495
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$$N - M$$
 $N - Ph$
 N

GT

AB The title compds. [I; M = absent, CH2, (4-FC6H4CH2)CH, etc.; Q = CH2, (4-FC6H4CH2)CH, etc.; J, K, L = CH2, (4-FC6H4CH2)CH, etc.; E = CH2, (CH2)2, etc.; Y = piperidinyl, piperazinyl, isoquinolinyl, etc. (N-substituted with CONHPh, COPh, etc.); R4 = absent, alkyl, alkenyl, etc.], modulators of CCR3 useful for the prevention of asthma and other allergic diseases, were prepared and formulated. E.g., a multi-step synthesis of II was given. Compds. I are effective at 1.0-20 mg/kg/day. ST heterocyclic piperidine prepn formulation chemokine CCR3 modulator;

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antiasthmatic heterocyclic piperidine prepn formulation; allergy inhibitor
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     Anti-inflammatory agents
     Antiasthmatics
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(1) Hesselgesser, J; JOURNAL OF BIOLOGICAL CHEMISTRY 1998, V273 (25), P15687
    HCAPLUS
(2) Kirchner; US 3133061 A 1964 HCAPLUS
(3) Lovens, K; DE 2013179 A 1970 HCAPLUS
(4) Merck & Co; WO 9825604 A 1998 HCAPLUS
(5) Merck & Co; WO 9827815 A 1998 HCAPLUS
(6) Merck & Co; WO 9831364 A 1998 HCAPLUS
(7) Merck & Co; WO 9909984 A 1999 HCAPLUS
(8) Weston; US 2684965 A 1954 HCAPLUS
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L39 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN AN 2004:817881 HCAPLUS

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     Preparation of piperidine derivatives for the treatment of chemokine or H1
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     Luckhurst, Christopher; Perry, Matthew; Springthorpe, Brian
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 \mathbb{R}^{1}
 \mathbb{R}^{1}

- The title compds. [I; E = CH, N; Q = H, OH; W = CH2, O, NR2; X = a bond, CH2, CH2O; Y = OH, SO3H, CH2SO3H, etc.; Z1-Z3 = H, halo, CN, NO2, etc.; R1 = (un)substituted Ph; R2 = H, alkyl], useful in the treatment of a chemokine (such as CCR3) or H1 mediated disease state, were prepared Thus, reacting 4-{[4-(3,4-dichlorophenoxy)piperidin-1-yl]methyl}piperidine with phthalic anhydride followed by treatment of the reaction mixture with AcOH afforded 2-[(4-{[4-(3,4-dichlorophenoxy)-1-piperidinyl]methyl}-1-piperidinyl)carbonyl]benzoic acid which showed pKi of 6.5 in human H1 receptor binding assay. The pharmaceutical composition comprising the compound I is claimed.
- ST piperidine prepn chemokine CCR3 histamine H1 antagonist
- IT Chemokine receptors

```
RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (CCR3; preparation of piperidine derivs. for the treatment of chemokine or
        H1 mediated disease state)
IT
     Histamine receptors
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (H1; preparation of piperidine derivs. for the treatment of chemokine or H1
        mediated disease state)
IT
     Human
        (preparation of piperidine derivs. for the treatment of chemokine or H1
        mediated disease state)
IT
     Chemokine receptors
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (preparation of piperidine derivs. for the treatment of chemokine or H1
        mediated disease state)
ΙT
     770729-78-7P, Methyl 2-[2-[[4-[[4-(3,4-dichlorophenoxy)-1-
                                                                 770729-81-2P,
     piperidinyl]methyl]-1-piperidinyl]carbonyl]phenyl]acetate
     Methyl 4-[[4-[[4-(3,4-dichlorophenoxy)-1-piperidinyl]methyl]-1-
     piperidinyl]carbonyl]benzoate
     RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
     preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); RACT (Reactant or reagent); USES (Uses)
        (preparation of piperidine derivs. for the treatment of chemokine or H1
        mediated disease state)
     770729-73-2P, 2-[[4-[[4-(3,4-Dichlorophenoxy)-1-piperidinyl]methyl]-1-
TТ
     piperidinyl]carbonyl]benzoic acid 770729-74-3P, 2-[[4-[[4-(2,4-Dichloro-
     3-methylphenoxy)-1-piperidinyl]methyl]-1-piperidinyl]carbonyl]benzoic acid
     770729-75-4P, 2-[[4-[[4-(3,4-Dichloro-2-methylphenoxy)-1-
     piperidinyl]methyl]-1-piperidinyl]carbonyl]benzoic acid
                                                              770729-76-5P,
     2-[[4-[[4-(3,4-Dichlorophenoxy)-1-piperidinyl]methyl]-1-
     piperidinyl]carbonyl]-3,6-difluorobenzoic acid 770729-77-6P,
     2-[[4-[[4-[(4-Fluorophen)methyl]-1-piperidinyl]methyl]-1-
     piperidinyl]carbonyl]benzoic acid 770729-79-8P, Methyl
     3-[[4-[[4-(3,4-dichlorophenoxy)-1-piperidinyl]methyl]-1-
                                    770729-80-1P, Methyl 2-[[4-[[4-(3,4-
     piperidinyl]carbonyl]benzoate
     dichlorophenoxy) -1-piperidinyl]methyl]-1-piperidinyl]carbonyl]-4-
     methoxybenzoate 770729-82-3P, 1-Methylethyl 3-[[4-[[4-(3,4-
     dichlorophenoxy) -1-piperidinyl] methyl] -1-piperidinyl] carbonyl] -2-
     pyridinecarboxylate 770729-83-4P, Methyl 4-chloro-2-[[4-[[4-(3,4-
     dichlorophenoxy)-1-piperidinyl]methyl]-1-piperidinyl]carbonyl]benzoate
     770729-84-5P, 2-[2-[[4-[[4-(3,4-Dichlorophenoxy)-1-piperidinyl]methyl]-1-
     piperidinyl]carbonyl]phenyl]acetic acid
                                             770729-85-6P,
     3-[[4-[[4-(3,4-Dichlorophenoxy)-1-piperidinyl]methyl]-1-
     piperidinyl]carbonyl]benzoic acid 770729-86-7P, 3-[[4-[[4-(3,4-
     Dichlorophenoxy)-1-piperidinyl]methyl]-1-piperidinyl]carbonyl]-2-
     pyridinecarboxylic acid 770729-87-8P, 2-[[4-[[4-(3,4-Dichlorophenoxy)-1-
     piperidinyl]methyl]-1-piperidinyl]carbonyl]-4-methoxybenzoic acid
     770729-88-9P, 4-[[4-[[4-(3,4-Dichlorophenoxy)-1-piperidinyl]methyl]-1-
     piperidinyl]carbonyl]benzoic acid 770729-89-0P, 2-[[4-[[4-(3,4-
     Dichlorophenoxy)-1-piperidinyl]methyl]-1-piperidinyl]carbonyl]-4-
     methylbenzoic acid 770729-90-3P, 4-Chloro-2-[[4-[[4-(3,4-
     dichlorophenoxy)-1-piperidinyl]methyl]-1-piperidinyl]carbonyl]benzoic acid
     sodium salt
                  770729-91-4P, 4-[[4-(3,4-Dichlorophenoxy)-1-
     piperidinyl]methyl]-1-[4-hydroxy-3-(methylsulfonyl)benzoyl]piperidine
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of piperidine derivs. for the treatment of chemokine or H1
        mediated disease state)
                                   1877-71-0, Monomethyl isophthalate
TТ
     85-44-9, Phthalic anhydride
                22921-68-2, 2-Bromo-5-methoxybenzoic acid
     14736-50-6
     tert-Butyl 4-formylpiperidine-1-carboxylate 213598-13-1,
     4-Methoxy-3-(methylsulfonyl)benzoic acid
                                              245057-73-2,
     4-(3,4-Dichlorophenoxy) piperidine
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (preparation of piperidine derivs. for the treatment of chemokine or H1
        mediated disease state)
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IT 676517-39-8P, 4-(3,4-Dichlorophenoxy)-1-(4-piperidinylmethyl)piperidine 676517-41-2P, 1,1-Dimethylethyl 4-[[4-(3,4-dichlorophenoxy)-1piperidinyl]methyl-1-piperidinecarboxylate 676517-42-3P, 4-(2,4-Dichloro-3-methylphenoxy)-1-(4-piperidinylmethyl)piperidine 676517-43-4P, 4-(4-Chloro-2-methylphenoxy)-1-(4piperidinylmethyl)piperidine 676517-45-6P, 4-(3,4-Dichloro-2methylphenoxy) -1-(4-piperidinylmethyl)piperidine 681469-62-5P 770729-92-5P, 4-[(4-Fluorophenyl)methyl]-1-(4-piperidinylmethyl)piperidine 770729-93-6P, 4-[[4-(3,4-Dichlorophenoxy)-1-piperidinyl]methyl]-1-[4methoxy-3-(methylsulfonyl)benzoyl]piperidine RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of piperidine derivs. for the treatment of chemokine or H1 mediated disease state) RE.CNT THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD RE (1) Astrazeneca Ab; WO 0177101 A1 2001 HCAPLUS (2) Du Pont Pharmaceuticals Company; WO 0035877 A1 2000 HCAPLUS (3) Lovens Kemiske Fabrik Produktionsaktieselskab; GB 1250719 A 1971 HCAPLUS (4) Smithkline Beecham P L C; WO 020791190 A1 2002 770729-77-6P, 2-[[4-[[4-[(4-Fluorophen)methyl]-1piperidinyl]methyl]-1-piperidinyl]carbonyl]benzoic acid RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of piperidine derivs. for the treatment of chemokine or H1 mediated disease state) RN 770729-77-6 HCAPLUS Benzoic acid, 2-[[4-[[4-[(4-fluorophenyl)methyl]-1-piperidinyl]methyl]-1piperidinyl]carbonyl]- (9CI) (CA INDEX NAME)

$$CO_2H$$
 CH_2 CH_2

ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN 1.39 AN 2003:511296 HCAPLUS DN 139:85334 ED Entered STN: 04 Jul 2003 ΤI Preparation of benzyl cyclic amines such as benzylpiperidine derivatives as serotonin reuptake inhibitors Kodo, Toru; Yagi, Hideki; Dan, Akihito; Masumoto, Shuji; Kinomura, Naoya; TN Koyama, Koji Sumitomo Pharmaceuticals Co., Ltd., Japan PA PCT Int. Appl., 186 pp. SO CODEN: PIXXD2 DTPatent Japanese LA IC ICM C07D211-26 C07D211-22; C07D401-06; C07D413-06; A61K031-445; A61K031-4545; ICS A61K031-4709; A61K031-5355; A61P001-00; A61P003-04; A61P005-00; A61P009-12; A61P015-00; A61P025-06; A61P025-16; A61P025-22; A61P025-24; A61P025-28; A61P025-30; A61P025-32 28-6 (Heterocyclic Compounds (More Than One Hetero Atom)) Section cross-reference(s): 1, 27 FAN.CNT 1 PATENT NO. KIND APPLICATION NO. DATE

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                          A1 20030703 WO 2002-JP13043 20021212
PΙ
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         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG,
             US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
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             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
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                                  20050324
                                              US 2004-498482
                                                                      20040816
PRAI JP 2001-379598
                           Α
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                           Α
                                  20011228
     JP 2002-7140
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                           А
     WO 2002-JP13043
                                  20021212
CLASS
 PATENT NO.
                  CLASS PATENT FAMILY CLASSIFICATION CODES
                         ______
 WO 2003053928
                         C07D211-26
                  ICM
                  ICS
                         C07D211-22; C07D401-06; C07D413-06; A61K031-445;
                         A61K031-4545; A61K031-4709; A61K031-5355; A61P001-00;
                         A61P003-04; A61P005-00; A61P009-12; A61P015-00;
                         A61P025-06; A61P025-16; A61P025-22; A61P025-24;
                         A61P025-28; A61P025-30; A61P025-32
                         A61K031/445; A61K031/4545; A61K031/4709; A61K031/5355;
 WO 2003053928
                  ECLA
                         C07D211/18; C07D211/22; C07D211/24; C07D211/26;
                         C07D211/34; C07D401/06+211+209C; C07D401/06+215+211;
                         C07D401/06+233+211; C07D401/06+239B+211;
                         C07D413/06+263B+211; C07D413/06+265D+211;
                         C07D417/06+277B+211
                         A61K031/445; A61K031/4545; A61K031/4709; A61K031/5355;
                  ECLA
 EP 1466901
                         C07D211/18; C07D211/22; C07D211/24; C07D211/26;
                         C07D211/34; C07D401/06+211+209C; C07D401/06+215+211;
                         C07D401/06+233+211; C07D401/06+239B+211;
                         CO7D413/06+263B+211; CO7D413/06+265D+211;
                         C07D417/06+277B+211
 US 2005065140
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                  NCL
                         A61K031/445; A61K031/4545; A61K031/4709; A61K031/5355;
                  ECLA
                         C07D211/18; C07D211/22; C07D211/24; C07D211/26;
                         C07D211/34; C07D401/06+211+209C; C07D401/06+215+211;
                         C07D401/06+233+211; C07D401/06+239B+211;
                         C07D413/06+263B+211; C07D413/06+265D+211;
                         C07D417/06+277B+211
os
     MARPAT 139:85334
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GI

$$Q^{1} = Q^{2} = X^{35}$$
 X^{32}
 X^{31}
 X^{33}
 X^{34}
 X^{33}
 X^{34}
 X^{35}
 X^{35}
 X^{36}
 X^{36}
 X^{36}

Disclosed is a serotonin reuptake inhibitor which contains as an active AB ingredient a cyclic amine represented by the formula (I) [wherein G = Q, -Z2-X20, Z3; R2 = H, halo, HO, each (un) substituted alkyl, alkoxy, or alkylthio; R3 = H, lower alkyl; Y = (un) substituted alkylene; n = 1,2,3; m = 0, 1,2,3; p = 1,2,3,4; wherein X10 = H, cycloalkyl, each (un)substituted alkyl, alkanoyl, alkanesulfonyl, alkylcarbamoyl, alkylsulfamoyl, alkoxycarbonyl, or amidino; X20 = HO, carbamoyloxy, each (un)substituted alkyl, NH2, alkoxy, or alkylcarbamoyloxy; Z2 = cycloalkane ring; Z3 = Q1, Q2; wherein X31 = a bond, CH2, CO; X32 = O, S, alkyl-(un) substituted NH; R6 = H, (un) substituted alkyl, cycloalkyl, aryl, or heteroaryl; X33 = a single bond, CH2, CO; X34 = a single bond, CH2; X35 = a single bond, CH2, O, S, alkyl-(un) substituted NH; provided that X34 and X35 are not simultaneously a single bond; R6 = H, alkyl; R8 = H, halo, alkyl, HO, (un) substituted alkoxy or alkylcarbamoyloxy], a prodrug thereof, or a pharmaceutically acceptable salt of any of these. The compds. I are selective serotonin reuptake inhibitors having an affinity for a serotonin 1A receptor. Thus, 55 mg triphosgene was added to a solution of 200 mg 3-[4-(2-bromo-5-methoxybenzyl)piperidin-1-yl]-1-cyclohexylaminopropan-2-ol and 0.083 mL Et3N in 5 m THF at room temperature and stirred for 6 h to give 100% 5-[[4-(2-bromo-5-methoxybenzyl)piperidin-1-yl]methyl]-3cyclohexyloxazolidin-2-one. 2-[[4-(2-Bromo-5-chlorobenzyl)piperidin-1yl]methyl]-1,2,3,4-tetrahydroquinoline dihydrochloride at 10-5 M increased by 74% the binding of [35S]GTPyS to CHO cell membrane expressing human 5-HT1A in the presence of 10 μM serotonin (5-HT). benzyl cyclic amine prepn serotonin reuptake inhibitor; benzylpiperidine st

benzyl cyclic amine prepn serotonin reuptake inhibitor; benzylpiperidine prepn serotonin reuptake inhibitor; benzylpiperidinylmethylcyclohexyloxazo lidine prepn serotonin reuptake inhibitor; benzylpiperidinylmethyltetrahyd roquinoline prepn serotonin reuptake inhibitor; oxazolidine benzylpiperidinylmethyl cyclohexyl prepn serotonin reuptake inhibitor; tetrahydroquinoline benzylpiperidinylmethyl prepn serotonin reuptake inhibitor

IT 5-HT antagonists

(5-HT1 \bar{A} ; preparation of benzyl cyclic amines such as benzylpiperidine derivs. as selective serotonin reuptake inhibitors)

IT Amines, preparation

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(cyclic; preparation of benzyl cyclic amines such as benzylpiperidine derivs. as selective serotonin reuptake inhibitors)

IT Human

(preparation of benzyl cyclic amines such as benzylpiperidine derivs. as selective serotonin reuptake inhibitors)

IT 552858-02-3P 552858-05-6P 552858-11-4P 552858-93-2P 552858-94-3P

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RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
    preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); RACT (Reactant or reagent); USES (Uses)
        (preparation of benzyl cyclic amines such as benzylpiperidine derivs. as
        selective serotonin reuptake inhibitors)
     552858-03-4P
                    552858-04-5P
                                   552858-06-7P
                                                   552858-07-8P
                                                                  552858-08-9P
IT
                                                  552858-13-6P
     552858-09-0P
                   552858-10-3P
                                   552858-12-5P
                                                                  552858-14-7P
     552858-16-9P 552858-17-0P
                                  552858-18-1P 552858-19-2P
     552858-20-5P 552858-21-6P 552858-22-7P
     552858-23-8P 552858-24-9P 552858-25-0P
     552858-26-1P 552858-27-2P
                                  552858-28-3P
                                                  552858-29-4P
     552858-30-7P
                    552858-31-8P
                                   552858-32-9P 552858-33-0P
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                  552858-35-2P
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    552858-34-1P
     552858-38-5P 552858-39-6P
                                  552858-40-9P
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                                                                  552858-43-2P
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                                  552858-46-5P
                                                  552858-47-6P
                                                                  552858-48-7P
                                   552858-53-4P
                                                  552858-55-6P
                                                                  552858-56-7P
     552858-49-8P
                  552858-51-2P
                                                                  552858-61-4P
     552858-57-8P
                   552858-58-9P
                                   552858-59-0P
                                                  552858-60-3P
     552858-62-5P
                    552858-63-6P
                                   552858-64-7P
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     552858-67-0P 552858-68-1P 552858-69-2P
                                                  552858-71-6P
                                                                  552858-73-8P
     552858-75-0P 552858-92-1P 552858-95-4P 552858-97-6P
     552858-99-8P 552859-00-4P
                                   552859-01-5P
                                                 552859-03-7P
                                                                 552859-05-9P
     552859-09-3P 552859-11-7P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of benzyl cyclic amines such as benzylpiperidine derivs. as
        selective serotonin reuptake inhibitors)
IT
     79-03-8, Propionyl chloride
                                  104-94-9, p-Anisidine
                                                            106-89-8,
     Epichlorohydrin, reactions 108-94-1, Cyclohexanone, reactions 109-90-0, Ethyl isocyanate 122-52-1, Triethyl phosphite 124-63-0,
    Methanesulfonyl chloride 540-51-2, 2-Bromoethanol 556-52-5, Glycidol
     775-16-6, 1-Benzyl-3-pyrrolidinone 2901-44-2
                                                      2951-98-6
                                                                   4355-11-7,
     1,1-Cyclohexanediacetic acid 24424-99-5, Di-tert-butyl dicarbonate
     26628-22-8, Sodium azide 27060-75-9, 2-Bromo-5-methoxytoluene
     32315-10-9, Triphosgene 41979-39-9, 4-Piperidone hydrochloride 46185-24-4, 1,2,3,4-Tetrahydroquinoline-2-carboxylic acid 121082-77-7
     157688-46-5 552858-80-7 552858-85-2 552859-07-1
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (preparation of benzyl cyclic amines such as benzylpiperidine derivs. as
        selective serotonin reuptake inhibitors)
                  19614-12-1P, 2-Bromo-5-methoxybenzyl bromide
IT
                                                                  42902-32-9P
     79099-07-3P, N-tert-Butoxycarbonyl-4-piperidone 204245-65-8P
     391954-24-8P 391954-25-9P 391954-26-0P 391954-27-1P
                                                                  391954-28-2P
                  391954-31-7P
                                                  391954-33-9P
                                                                  391957-02-1P
     391954-30-6P
                                   391954-32-8P
                                  552858-81-8P
                  391957-04-3P
                                                  552858-82-9P
                                                                  552858-83-0P
     391957-03-2P
                                   552858-87-4P
                                                   552858-88-5P
                                                                  552858-89-6P
     552858-84-1P
                   552858-86-3P
                                                  552858-98-7P
                                                                  552859-02-6P
     552858-90-9P
                    552858-91-0P
                                   552858-96-5P
                  552859-06-0P
                                   552859-10-6P
     552859-04-8P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (preparation of benzyl cyclic amines such as benzylpiperidine derivs. as
        selective serotonin reuptake inhibitors)
     50-67-9, Serotonin, biological studies
IT
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (reuptake inhibitors; preparation of benzyl cyclic amines such as
        benzylpiperidine derivs. as selective serotonin reuptake inhibitors)
              THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT
RE
(1) Bristol-Myers Squibb Co; WO 0044376 A1 2000 HCAPLUS
(2) Bristol-Myers Squibb Co; AU 2712200 A 2000
(3) Bristol-Myers Squibb Co; US 6225324 B1 2000 HCAPLUS
(4) Bristol-Myers Squibb Co; BR 9916618 A 2000 HCAPLUS
(5) Meiji Seika Kaisha Ltd; WO 9808816 A1 1998 HCAPLUS
(6) Sumitomo Pharmaceuticals Co Ltd; JP 2001131149 A 2001 HCAPLUS
(7) Sumitomo Pharmaceuticals Co Ltd; WO 0206231 A1 2002 HCAPLUS
IT
     552858-94-3P
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OMe
$$CH_2-CH_2$$
 CH_2
 $C-CF_3$

● HC1

RN 552858-20-5 HCAPLUS
CN Piperidine, 1-acetyl-4-[3-[4-[[2-bromo-5-(1-methylethoxy)phenyl]methyl]-1piperidinyl]propyl]-, monohydrochloride (9CI) (CA INDEX NAME)

• HCl

RN 552858-21-6 HCAPLUS
CN Piperidine, 4-[2-[4-[(2-bromo-5-methoxyphenyl)methyl]-1-piperidinyl]ethyl]1-(trifluoroacetyl)-, monohydrochloride (9CI) (CA INDEX NAME)

OMe
$$CH_2-CH_2$$
 CH_2 CH_2

● HCl

RN 552858-22-7 HCAPLUS
CN Piperidine, 4-[2-[4-[(2-bromo-5-methoxyphenyl)methyl]-1-piperidinyl]ethyl]1-(hydroxyacetyl)-, monohydrochloride (9CI) (CA INDEX NAME)

OMe
$$CH_2-CH_2$$
 CH_2-OH CH_2-CH_2

● HCl

RN 552858-23-8 HCAPLUS
CN 1-Piperidinecarboxylic acid, 4-[2-[4-[(2-bromo-5-methoxyphenyl)methyl]-1 piperidinyl]ethyl]-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)

OMe
$$CH_2-CH_2$$
 CH_2-CH_2

HCl

RN 552858-24-9 HCAPLUS

CN 1-Piperidinecarboxylic acid, 4-[2-[4-[[2-bromo-5-(1-methylethoxy)phenyl]methyl]-1-piperidinyl]ethyl]-, methyl ester, monohydrochloride (9CI) (CA INDEX NAME)

• HCl

RN 552858-25-0 HCAPLUS

CN 1-Piperidinecarboxamide, 4-[2-[4-[(2-bromo-5-methoxyphenyl)methyl]-1-piperidinyl]ethyl]-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} \text{OMe} & \text{O} \\ \hline \\ \text{C} \\ \text{N} \\ \text{CH}_2 \\ \end{array}$$

● HCl

RN 552858-26-1 HCAPLUS

CN 1-Piperidinecarboxamide, 4-[2-[4-[[2-bromo-5-(1-methylethoxy)phenyl]methyl]-1-piperidinyl]ethyl]-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN 552858-33-0 HCAPLUS
CN 1-Piperidinecarboxamide, 4-[2-[4-[[2-bromo-5-(1-methylethoxy)]]] methyll-1-piperidinyllethyll

methylethoxy)phenyl]methyl]-1-piperidinyl]ethyl]-N-ethyl-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

RN 552858-34-1 HCAPLUS

CN 1-Piperidinecarboxamide, 4-[2-[4-[(2-bromo-5-methoxyphenyl)methyl]-1-piperidinyl]ethyl]-N-ethyl-, monohydrochloride (9CI) (CA INDEX NAME)

• HCl

RN 552858-92-1 HCAPLUS

CN Piperidine, 3-[3-[4-[(2-bromo-5-methoxyphenyl)methyl]-1-piperidinyl]propyl]-1-(1-oxopropyl)- (9CI) (CA INDEX NAME)

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L39 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN
    1999:34578 HCAPLUS
AN
DN
    130:139257
ED
    Entered STN: 19 Jan 1999
    Preparation of 4-amino-5-halo-2-alkoxy-N-(4-piperidinylalkyl or
     4-piperidinylcarbonyl)benzamides for improving digestive tract function
    Kato, Shiro; Harada, Hiroshi; Toyotomi, Yoshihito; Yoshida, Naoyuki;
TN
    Morikage, Yukiko
PA
    Dainippon Pharmaceutical Co., Ltd., Japan
so
    Jpn. Kokai Tokkyo Koho, 29 pp.
    CODEN: JKXXAF
DT
    Patent
    Japanese
LA
    ICM C07D207-09
IC
    ICS A61K031-445; A61K031-535; C07D207-14; C07D211-34; C07D211-58;
         C07D401-06; C07D413-14; A61K031-40
CC
    27-16 (Heterocyclic Compounds (One Hetero Atom))
     Section cross-reference(s): 1, 63
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                       C07D211-58; C07D401-06; C07D413-14; A61K031-40
os
    MARPAT 130:139257
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$$\begin{array}{c|c}
R^{1} & CONH (CH_{2})_{m} & (CH_{2})_{n} \\
& (CH_{2})_{n1} & (CH_{2})_{p1}
\end{array}$$

$$\begin{array}{c|c}
& CH_{2})_{p} \\
& (CH_{2})_{p1}
\end{array}$$

GI

C1 CONH N-CH₂ N-(CH₂)
$$_4$$
NH₂

H2N OEt II

AB The title compds. [I; R1 = halo; R2 = H, lower alkyl; R3 = H, lower alkyl

Ι

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or alkanoyl; R4 = lower alkoxy; n = 1,2; n1 = 2,3; p = 1,2; p1 = 2,3; m =
0,1,2; X = (CH2)r, CO(CH2)s; wherein r = 1,2; s = 0,1; A =
(CH2) tCR5aR5b (CH2) qNR6R7, CO (CH2) uCR5aR5b (CH2) qNR6R7; wherein t = 1,2,3; q
= 0,1,2,3; u = 0,1,2; R5a = H, lower alkyl, HO, lower hydroxyalkyl, lower
alkoxy, lower alkoxy-lower alkyl, (un) substituted NH2, etc.; R5b = H, lower alkyl; R6 = H, lower alkyl, lower alkylsulfonyl; R7 = H, lower alkyl; or R5a and R6 are joined together to form pyrrolidine, piperidine,
hexahydroazepine, or morpholine ring; or R6 and R7 are joined together to
form pyrrolidine, piperidine, hexahydroazepine, or optionally N-lower
alkyl-substituted piperazine] are prepared Also claimed is an improver for
digestive tract function containing above compds. I. These compds. show
potent affinity to and potent agonist activity on serotonin 4 (5-HT4)
receptor and are useful for the treatment and prevention of digestive
tract function disorders accompanied by various diseases or therapies.
Thus, 4-amino-5-chloro-2-ethoxybenzoic acid was condensed with
4-amino-1-[1-(4-phthalimidobutyl)-4-piperidinylmethyl]piperidine using
1-ethyl-3-(3-dimethylaminopropyl) carbodiimide hydrochloride and Et3N in
CH2Cl2 at room temperature for 3 h, followed by treatment with hydrazine in
ethanol under reflux and salt formation with fumaric acid, to give the
title compound (II fumarate). II fumarate showed IC50 of 1.0 nM for
inhibiting the binding of [3H]-GR113808 to 5-HT4 receptor preparation from
Std-Hartley guinea pig's brain. Tablet, dispersant, and injection
formulations containing I were given.
aminohaloalkoxypiperidinylalkylbenzamide prepn digestive tract function
improver; aminohaloalkoxypiperidinylcarbonylbenzamide prepn digestive
tract function improver; benzamide amino halo alkoxy piperidinylalkyl
prepn; piperidine prepn serotonin 4 receptor agonist
5-HT receptors
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC
(Miscellaneous); BIOL (Biological study); PROC (Process)
   (5-HT4, agonists; preparation of aminohaloalkoxy-N-(piperidinylalkyl or
   piperidinylcarbonyl)benzamides as serotonin 4 receptor agonists for
   improving digestive tract function)
Digestive tract
   (preparation of aminohaloalkoxy-N-(piperidinylalkyl or
   piperidinylcarbonyl)benzamides as serotonin 4 receptor agonists for
   improving digestive tract function)
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220031-51-6P
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study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
BIOL (Biological study); PREP (Preparation); USES (Uses)
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   piperidinylcarbonyl)benzamides as serotonin 4 receptor agonists for
   improving digestive tract function)
79-04-9, Chloroacetyl chloride 100-39-0, Benzyl bromide N,N-Dimethylglycine 4138-26-5, Nipecotamide 4530-20-5
                                                               1118-68-9,
                                                               5394-18-3,
N-(4-Bromobutyl)phthalimide 5455-98-1, N-(2,3-Epoxypropyl)phthalimide
5460-29-7, N-(3-Bromopropyl)phthalimide
                                          6094-36-6, N-Benzoyl-L-glutamic
       7206-70-4 10314-98-4, 1-(Benzyloxycarbonyl)-4-
piperidinecarboxylic acid 13574-13-5, N-tert-Butoxycarbonyl-L-glutamic
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ST

IT

TТ

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acid 5-benzyl ester 18162-48-6, tert-Butyldimethylsilyl chloride
     24424-99-5, Di-tert-butyl dicarbonate 50541-93-0, 4-Amino-1-
    benzylpiperidine 55878-80-3 57294-38-9, 4-((tert-
    Butoxycarbonyl)amino)butyric acid 61694-98-2, 5-Chloro-2-methoxy-4-
     (methylamino) benzoic acid 69489-07-2, 4-((tert-Butoxycarbonyl)amino)-3-
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     hydroxybutyric acid
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     1-(Benzyloxycarbonyl)-3-piperidinecarboxylic acid
                                                       99724-19-3,
     3-((tert-Butoxycarbonyl)amino)pyrrolidine 108282-38-8,
     4-Amino-5-chloro-2-ethoxybenzoic acid 130853-32-6, 2,4-Bis((tert-
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     1-Benzylnipecotamide
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    Butyldimethylsilyl)oxy)-2-(tritylamino)-1-pentanol
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    3-(4-Benzyl-3-morpholinyl)-1-propanol 220032-79-1P, 3-(3-Morpholinyl)-1-
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     (Reactant or reagent)
        (preparation of aminohaloalkoxy-N-(piperidinylalkyl or
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IT
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    220032-88-2 HCAPLUS
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     1-Piperidinecarboxylic acid, 4-[[4-[(4-amino-5-chloro-2-
    methoxybenzoyl)amino]-1-piperidinyl]methyl]-1-piperidinyl]carbonyl]-,
    phenylmethyl ester (9CI) (CA INDEX NAME)
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RN 220032-89-3 HCAPLUS

CN 1-Piperidinecarboxylic acid, 4-[[4-[[4-[(4-amino-5-chloro-2-methoxybenzoyl)amino]-1-piperidinyl]methyl]-1-piperidinyl]methyl]-, phenylmethyl ester (9CI) (CA INDEX NAME)

— Ph

RN 220032-90-6 HCAPLUS

CN 1-Piperidinecarboxylic acid, 3-[[4-[[4-[(4-amino-5-chloro-2-methoxybenzoyl)amino]-1-piperidinyl]methyl]-1-piperidinyl]carbonyl]-, phenylmethyl ester (9CI) (CA INDEX NAME)

L39 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2005 ACS on STN

AN 1993:124405 HCAPLUS

DN 118:124405

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Entered STN: 30 Mar 1993
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TI
     Preparation of 1-aralk(ano)yl-3-aryl-3-(piperidinoalkyl)piperidines and
     analogs as substance P and neurokinin antagonists
IN
     Goulaouic, Pierre; Emonds-Alt, Xavier; Gueule, Patrick; Proietto, Vincenzo
PA
     Elf Sanofi SA, Fr.
     Eur. Pat. Appl., 75 pp.
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     ICS C07D211-52; C07D211-26; C07D211-22; C07D405-12; C07D401-06;
          C07D207-08; A61K031-445
     27-16 (Heterocyclic Compounds (One Hetero Atom))
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                         C07D401-06; C07D207-08; A61K031-445
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                  ECLA C07D207/08A; C07D207/26C; C07D211/22; C07D211/24;
                          CO7D211/26; CO7D211/34; CO7D211/52; CO7D211/76;
                          C07D401/06+211+207; C07D401/06+211+205;
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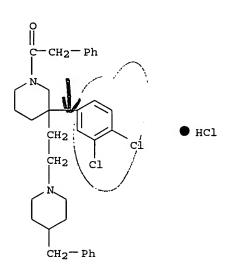
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     MARPAT 118:124405
OS
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GT

Title compds. [I; R = Ph, (benzo)thienyl, naphthyl, indolyl, etc.; T, Z1 = AB CO, CH2; Y = NR1, $CX(CH2) \times R2$; R1 = Ph, PhCH2, cycloalkyl(methyl), pyridyl(methyl), etc.; R2 = Ph, pyridyl, thienyl; X = H, OH, alkoxy, acyloxy, CO2H, etc.; Z = Ph, naphthyl, pyridyl, thienyl, etc.; n, q = 0-3; p = 1, 2; x = 0, 1] were prepared Thus, 3,4-Cl2C6H3CH2CN was condensed with 2-(2-bromoethoxy)tetrahydropyran and the product condensed with BrCH2CH2CO2Et to give, after cyclization and reduction, piperidine II (R3 = H, R4 = tetrahydropyranyloxy) which was N-acetylated with PhCH2CO2H and the product converted to II (R3 = COCH2Ph) (III; R4 = OSO2Me). The latter was condensed with 4-benzylpiperidine to give III (R4 = 4-benzylpiperidino) which had Ki of 8.3 nM for antagonism of substance P binding in vitro. piperidinoalkylpiperidine aralkanoyl prepn neurokinin antagonist; ST substance P antagonist aralkansylpiperidinoalkylpiperidine prepn IT 33507-63-0, Substance P 86933-74-6, Neurokinin A 86933-75-7 RL: RCT (Reactant); RACT (Reactant or reagent) (antagonists of, N-[aralk(ano)yl]aryl(piperidinoalkyl)piperidines and analogs as) TT 146396-09-0P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and decomposition of, in preparation of neurokinin and substance P antagonists)

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                                  178371-54-5P
                                                476311-96-3P
    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
       (preparation and reaction of, in preparation of neurokinin and substance P
       antagonists)
TТ
    146366-33-8P 146366-34-9P
                              146366-35-0P
                                              146366-36-1P
                  146366-38-3P
                                 146366-39-4P
                                                146366-40-7P 146366-41-8P
    146366-37-2P
    146366-42-9P 146366-43-0P 146366-44-1P
    146366-45-2P 146366-46-3P 146366-47-4P
                                            146366-51-0P
    146366-48-5P 146366-49-6P 146366-50-9P
    146366-52-1P 146366-53-2P 146366-54-3P
                                             146366-58-7P
    146366-55-4P
                 146366-56-5P 146366-57-6P
    146366-59-8P 146366-60-1P
                                  146366-61-2P 146366-62-3P
    146366-63-4P 146366-64-5P
                                  146366-65-6P 146366-66-7P
    146366-67-8P 146366-68-9P 146366-69-0P
    146366-70-3P 146366-71-4P 146366-72-5P
    146366-73-6P 146366-74-7P 146366-75-8P
    146366-76-9P 146366-77-0P 146366-78-1P
    146366-79-2P 146366-80-5P 146366-81-6P
    146366-82-7P 146366-83-8P 146395-71-3P
                                              146395-72-4P
    146395-73-5P 146395-74-6P 146395-75-7P
    146395-76-8P
    RL: SPN (Synthetic preparation); PREP (Preparation)
        (preparation of, as neurokinin and substance P antagonist)
    75-30-9, 2-Iodopropane 98-88-4, Benzoyl chloride 100-39-0,
TТ
    Benzylbromide 100-83-4, 3-Hydroxybenzaldehyde 103-82-2, Phenylacetic
    acid, reactions 140-88-5 539-74-2, Ethyl 3-bromopropionate 824-98-6,
    3-Methoxybenzyl chloride 1798-09-0, 3-Methoxyphenylacetic acid
    1878-65-5, 3-Chlorophenylacetic acid 2969-81-5, Ethyl-4-bromobutyrate
    3218-49-3, 3,4-Dichlorophenylacetonitrile 7021-09-2 17739-45-6,
    2-(2-Bromoethoxy)tetrahydropyran 31252-42-3, 4-Benzylpiperidine
                33821-94-2, 2-(3-Bromopropoxy)tetrahydropyran 40807-61-2,
    32222-43-8
                                              109870-35-1 146031-94-9
     4-Hydroxy-4-phenylpiperidine 61008-98-8
    146395-90-6
                 146395-93-9 146396-04-5
    RL: RCT (Reactant); RACT (Reactant or reagent)
        (reaction of, in preparation of neurokinin and substance P antagonists)
ΙT
    146396-13-6P
    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (preparation and reaction of, in preparation of neurokinin and substance P
       antagonists)
RN
    146396-13-6 HCAPLUS
CN
    1-Piperidinecarboxamide, 3-(3,4-dichlorophenyl)-N-(1,1-dimethylethyl)-3-[2-
     [4-(phenylmethyl)-1-piperidinyl]ethyl]- (9CI) (CA INDEX NAME)
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IT
    146366-34-9P 146366-43-0P 146366-44-1P
     146366-45-2P 146366-46-3P 146366-47-4P
     146366-49-6P 146366-50-9P 146366-53-2P
    146366-54-3P 146366-55-4P 146366-57-6P
     146366-62-3P 146366-63-4P 146366-66-7P
     146366-67-8P 146366-68-9P 146366-69-0P
     146366-70-3P 146366-71-4P 146366-72-5P
     146366-73-6P 146366-74-7P 146366-76-9P
     146366-77-0P 146366-78-1P 146366-79-2P
    146366-80-5P 146366-81-6P 146366-82-7P
     146366-83-8P 146395-73-5P 146395-74-6P
     146395-75-7P 146395-76-8P
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (preparation of, as neurokinin and substance P antagonist)
RN
     146366-34-9 HCAPLUS
     Piperidine, 3-(3,4-dichlorophenyl)-1-(phenylacetyl)-3-[2-[4-(phenylmethyl)-
CN
     1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)
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RN 146366-43-0 HCAPLUS
CN Piperidine, 3-(3,4-dichlorophenyl)-1-[(3,5-difluorophenyl)acetyl]-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)

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Ph-CH2

HCl

RN 146366-44-1 HCAPLUS
CN Piperidine, 3-(3,4-dichlorophenyl)-1-[(4-fluoro-1-naphthalenyl)carbonyl]-3[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA
INDEX NAME)

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F

● HCl

RN CN

146366-45-2 HCAPLUS
Piperidine, 3-(3,4-dichlorophenyl)-1-[(3-ethoxyphenyl)acetyl]-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)

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Ph-CH2

● HCl

RN

146366-46-3 HCAPLUS
Piperidine, 3-(3,4-dichlorophenyl)-1-[[3-(1-methylethoxy)phenyl]acetyl]-3[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA
INDEX NAME) CN

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Ph-CH2

HC1

RN

146366-47-4 HCAPLUS
Piperidine, 3-(3,4-dichlorophenyl)-1-[(3,5-dimethoxyphenyl)acetyl]-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME) CN

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Ph-CH2

● HCl

RN 146366-49-6 HCAPLUS
CN Piperidine, 1-benzoyl-3-(1-naphthalenyl)-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)

$$\begin{array}{c} \stackrel{\circ}{\parallel} \\ \text{Ph-C} \\ \stackrel{\circ}{\parallel} \\ \text{CH}_2\text{-CH}_2\text{-N} \end{array}$$

● HCl

RN 146366-50-9 HCAPLUS
CN Piperidine, 1-(2,4-dimethoxybenzoyl)-3-(1-naphthalenyl)-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN

146366-53-2 HCAPLUS
Piperidine, 1-[(3-chlorophenyl)acetyl]-4-(3-methylphenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX CN

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HCl

RN

146366-54-3 HCAPLUS
Piperidine, 1-[(3,5-dimethoxyphenyl)acetyl]-4-(3-methylphenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX CN NAME)

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PAGE 2-A

HCl

Piperidine, 1-(2,4-dimethoxybenzoyl)-4-(3-methylphenyl)-4-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride (9CI) (CA INDEX CN

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PAGE 2-A

● HCl

RN

146366-57-6 HCAPLUS
Piperidine, 3-(3,4-dichlorophenyl)-1-[(3-methoxyphenyl)acetyl]-3-[3-[4-(phenylmethyl)-1-piperidinyl]propyl]-, monohydrochloride (9CI) (CA INDEX CN NAME)

RN 146366-62-3 HCAPLUS

CN Piperidine, 3-(3,4-dichlorophenyl)-1-[[3-(1-methylethoxy)phenyl]acetyl]-3[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, (-)- (9CI)
(CA INDEX NAME)

Rotation (-).

● HCl

RN 146366-63-4 HCAPLUS

CN Piperidine, 3-(3,4-dichlorophenyl)-1-[[3-(1-methylethoxy)phenyl]acetyl]-3[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, (+)- (9CI)
(CA INDEX NAME)

Rotation (+).

RN 146366-66-7 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[[3-(1methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl]-1-methyl-4-(phenylmethyl), iodide (9CI) (CA INDEX NAME)

RN 146366-67-8 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[[3-(1methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl]-1,4-bis(phenylmethyl)-,
bromide (9CI) (CA INDEX NAME)

$$i-PrO$$

$$CH_2$$

$$C = O$$

$$N^+ CH_2 - CH_2$$

$$CH_2 - Ph$$

$$C1$$

$$C1$$

RN 146366-68-9 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[[3-(1methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl]-1-ethyl-4-(phenylmethyl), iodide (9CI) (CA INDEX NAME)

RN 146366-69-0 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[(3-ethoxyphenyl)acetyl]-3-piperidinyl]ethyl]-1-methyl-4-(phenylmethyl)-, iodide (9CI) (CA INDEX NAME)

$$\begin{array}{c} \text{EtO} \\ \text{CH}_2 \\ \text{C} \\ \text{O} \\ \text{N}^+ \text{CH}_2 - \text{CH}_2 \\ \text{Me} \\ \\ \text{Cl} \\ \end{array}$$

RN 146366-70-3 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[[3-(1methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl]-1-methyl-4-(phenylmethyl), chloride, (-)- (9CI) (CA INDEX NAME)

Rotation (-).

• cl-

RN 146366-71-4 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[[3-(1methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl]-1-methyl-4-(phenylmethyl), chloride, (+)- (9CI) (CA INDEX NAME)

Rotation (+).

● c1-

RN 146366-72-5 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[[3-(1methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl]-1-methyl-4-(phenylmethyl), iodide, (-)- (9CI) (CA INDEX NAME)

Rotation (-).

• I -

RN 146366-73-6 HCAPLUS
CN Piperidinium, 1-[2-[3-(3,4-dichlorophenyl)-1-[[3-(1-methylethoxy)phenyl]acetyl]-3-piperidinyl]ethyl]-1-methyl-4-(phenylmethyl)-, iodide, (+)- (9CI) (CA INDEX NAME)

Rotation (+).

RN

146366-74-7 HCAPLUS
Piperidine, 3-(3,4-dichlorophenyl)-1-[[3-(1-methylethoxy)phenyl]acetyl]-3-CN[2-[1-oxido-4-(phenylmethyl)-1-piperidinyl]ethyl]- (9CI) (CA INDEX NAME)

$$\begin{array}{c} \text{i-PrO} \\ \\ \text{CH}_2 \\ \\ \text{C} \\$$

146366-76-9 HCAPLUS RN

Piperidine, 3-(3,4-dichlorophenyl)-1-(methoxyphenylacetyl)-3-[2-[4-CN(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

• HCl

RN 146366-78-1 HCAPLUS
CN Piperidine, 3-(3,4-dichlorophenyl)-1-(1-oxo-2-phenylpropyl)-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, (R*,R*)- (9CI) (CA INDEX NAME)

RN 146366-79-2 HCAPLUS

CN Piperidine, 3-(3,4-dichlorophenyl)-1-(1-oxo-2-phenylpropyl)-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, (R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

● HCl

RN 146366-80-5 HCAPLUS

CN Piperidine, 3-(3,4-dichlorophenyl)-1-(1-oxo-2-phenylbutyl)-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, (R*,R*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

● HCl

RN 146366-82-7 HCAPLUS
CN Piperidine, 3-(3,4-dichlorophenyl)-1-[hydroxy[3-(1methylethoxy)phenyl]acetyl]-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-,
monohydrochloride, (R*,R*)- (9CI) (CA INDEX NAME)

RN 146366-83-8 HCAPLUS

CN Piperidine, 3-(3,4-dichlorophenyl)-1-[hydroxy[3-(1-methylethoxy)phenyl]acetyl]-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, (R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

● HCl

RN 146395-73-5 HCAPLUS

CN Piperidine, 1-[(3-chlorophenyl)hydroxyacetyl]-3-(3,4-dichlorophenyl)-3-[2-[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, [S-(R*,S*)]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

146395-74-6 HCAPLUS

Piperidine, 1-[(3-chlorophenyl)hydroxyacetyl]-3-(3,4-dichlorophenyl)-3-[2-CN $[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, <math>[R-(R^*,S^*)]-$ (9CI) (CA INDEX NAME)

Absolute stereochemistry.

HCl

RN

146395-75-7 HCAPLUS
Piperidine, 1-[(3-chlorophenyl)hydroxyacetyl]-3-(3,4-dichlorophenyl)-3-[2-CN[4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, [R-(R*,R*)]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

146395-76-8 HCAPLUS
Piperidine, 1-[(3-chlorophenyl)hydroxyacetyl]-3-(3,4-dichlorophenyl)-3-[2-CN [4-(phenylmethyl)-1-piperidinyl]ethyl]-, monohydrochloride, [S-(R*,R*)]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

● HCl

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